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	194384	hydrophilic	USPAT;	2004/06/11
-	194384	nydropnilic	US-PGPUB;	11:22
			EPO; JPO;	
			DERWENT	
-	178329	hydrophobic	USPAT; US-PGPUB;	2004/06/11
			EPO; JPO;	11:22
			DERWENT	
-	549921	ester	USPAT;	2004/06/11
			US-PGPUB;	11:22
		'	EPO; JPO; DERWENT	
_	15	polyphosph?	USPAT;	2004/06/11
		 	US-PGPUB;	11:23
			EPO; JPO;	
	1050206		DERWENT	2004/06/11
_	1950306	phosphoric acid	USPAT; US-PGPUB;	11:23
			EPO; JPO;	
			DERWENT	
-	488145	polymer and (phosphoric acid)	USPAT;	2004/06/11
			US-PGPUB; EPO; JPO;	11:24
			DERWENT	
	150006	cationic	USPAT;	2004/06/11
			US-PGPUB;	11:24
			EPO; JPO;	
	63167	 (polymer and (phosphoric acid)) and	DERWENT USPAT;	2004/06/11
-	03107	cationic	US-PGPUB;	11:25
			EPO; JPO;	
			DERWENT	0004/06/11
-	3918	biomaterial	USPAT; US-PGPUB;	2004/06/11 11:25
			EPO; JPO;	
			DERWENT	
_	262893	polyurethan?	USPAT;	2004/06/11
			US-PGPUB; EPO; JPO;	11:27
		· · · · · · · · · · · · · · · · · · ·	DERWENT	
_	260	((polymer and (phosphoric acid)) and	USPAT;	2004/06/11
		cationic) and biomaterial	US-PGPUB;	11:25
			EPO; JPO; DERWENT	
_	715	 polyurethan? and biomaterial	USPAT;	2004/06/11
	, 13	polyalechan. and bromaserrar	US-PGPUB;	11:25
			EPO; JPO;	
	_	(1	DERWENT	2004/06/11
-	0	(polyurethan? and biomaterial) and amphilic	USPAT; US-PGPUB;	2004/06/11 11:25
		ampirit ± 10	EPO; JPO;	
			DERWENT	
-	0	(polyurethan? and biomaterial) and	USPAT;	2004/06/11
		polyionene	US-PGPUB; EPO; JPO;	11:25
			DERWENT	
-	9	polyurethan? and amphilic	USPAT;	2004/06/11
			US-PGPUB;	11:26
			EPO; JPO; DERWENT	
-	81918	hydrophobic and hydrophilic	USPAT;	2004/06/11
		2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	US-PGPUB;	11:26
			EPO; JPO;	
_	0	(hydrophobic and hydrophilic) and 18]	DERWENT USPAT;	2004/06/11
-		(mydrophobic and mydrophilile) and rol	US-PGPUB;	11:26
			EPO; JPO;	
			DERWENT	2004/05/11
_	0	((hydrophobic and hydrophilic) and 18]) and ester	USPAT; US-PGPUB;	2004/06/11
		and ester	EPO; JPO;	11.20
			DERWENT	

- 31911 (hydrophobic and hydrophilic) and ester USPAT; US-PGPUB; 11:26 - 349 ((hydrophobic and hydrophilic) and ester) USPAT; EPO; JPO; DERWENT USPAT;	11
- 349 ((hydrophobic and hydrophilic) and ester) USPAT; 2004/06/ and biomaterial US-PGPUB; EPO; JPO; DERWENT US-PGPUB; EPO; JPO; DERWENT USPAT; 2004/06/	
- 349 ((hydrophobic and hydrophilic) and ester) USPAT; 2004/06/ and biomaterial US-PGPUB; EPO; JPO; DERWENT TO DERWENT USPAT; 2004/06/	
- 349 ((hydrophobic and hydrophilic) and ester) USPAT; 2004/06/ and biomaterial US-PGPUB; 11:27 EPO; JPO; DERWENT USPAT; 2004/06/	
and biomaterial US-PGPUB; 11:27 EPO; JPO; DERWENT USPAT; 2004/06/	
EPO; JPO; DERWENT USPAT; 2004/06/	11
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- 17748 polyphosph? an dl14 USPAT; 2004/06/	11
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- 2378 (phosphoric acid) and biomaterial USPAT; 2004/06/	11
US-PGPUB; 11:27	
EPO; JPO;	
DERWENT	
- 1056 ((phosphoric acid) and biomaterial) and USPAT; 2004/06/	11
(amphiphilic or hydrophilic or US-PGPUB; 11:28	
hydrophobic) EPO; JPO;	
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- 940 (((phosphoric acid) and biomaterial) and USPAT; 2004/06/	11
(amphiphilic or hydrophilic or US-PGPUB; 11:28	11
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- 940 ((((phosphoric acid) and biomaterial) and USPAT; 2004/06/	11
(amphiphilic or hydrophilic or US-PGPUB; 11:29	
hydrophobic)) and polymer) and EPO; JPO;	
(polyphosph? or (phosphoric acid)) DERWENT	
- 191 (((((phosphoric acid) and biomaterial) USPAT; 2004/06/	11
and (amphiphilic or hydrophilic or US-PGPUB; 11:29	
hydrophobic)) and polymer) and EPO; JPO;	
(polyphosph? or (phosphoric acid))) and DERWENT	
(liposom? or micell? or "biological	
membrane")	
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and (amphiphilic or hydrophilic or US-PGPUB; 11:29	
hydrophobic)) and polymer) and EPO; JPO;	
(polyphosph? or (phosphoric acid))) and DERWENT	
(liposom? or micell? or "biological	
membrane")) and polyphosph?	

	Document ID	Title
1	US 20040142335 A1	Method for determining skin stress or skin ageing in vitro
2	US 20040072270 A1	Cell-based fluorescence resonance energy transfer (FRET) assays for clostridial toxins
3	US 20040043949 A1	Therapeutic system targeting pathogen proteases and uses thereof
4	US 20040005642 A1	Compositions and methods for treatment and detection of multiple cancers
5	US 20030203865 A1	Lipid-comprising drug delivery complexes and methods for their production
6	US 20030153081 A1	Viral core protein-cationic lipid-nucleic acid-delivery complexes
7	US 20030144230 A1	Peptide-enhanced transfections
8	US 20030103945 A1	Methods and compositions for stimulating axon regeneration and preventing neuronal cell degeneration
9	US 20030069173 A1	Peptide-enhanced transfections
10	US 20020156237 A1	Novel amide-based cationic lipids
11	US 20020146830 A1	Methods and compositions for delivery of pharmaceutical agents
12	US 20020132990 A1	Bioengineered vehicles for targeted nucleic acid delivery
13	US 20020102216 A1	Enhanced ultrasound detection with temperature-dependent contrast agents

	Document ID	Title
14	US 20020065213 Al	METHODS AND COMPOSITIONS FOR NONVIRAL GENE DELIVERY
15	US 20020037834 A1	Compositions and methods for enhanced sensitivity and specificity of nucleic acid synthesis
16	US 6638529 B2	Amide-based cationic lipids
17	US 6509032 B1	Cationic amphiphiles
18	US 6387395 B1	N-[1, (1-1) -dialkyloxy] - and N- [1, (1-1) -dialkenyloxy]- alk-1-yl-N,N,N-tetrasubstitut ed ammonium lipids and uses therefor
19	US 6376248 B1	Peptide-enhanced transfections
20	US 6339173 B1	Amide-based cationic lipids
21	US 6245427 B1	Non-ligand polypeptide and liposome complexes as intracellular delivery vehicles
22	US 6153597 A	Pharmaceutical composition useful for nucleic acid transfection, and use thereof

	Document ID	Title
23	US 6123923 A	Optoacoustic contrast agents and methods for their use
24	US 6051429 A	Peptide-enhanced cationic lipid transfections
25	US 6034135 A	Dimeric cationic lipids
26	US 6020526 A	Amide-based cationic lipids
27	US 6020202 A	Composition and methods for transfecting eukaryotic cells
28	US 5945400 A	Nucleic acid-containing composition, preparation and use thereof
29	US 5877220 A	Amide-based oligomeric cationic lipids
30	US 5736392 A	Peptide-enhanced cationic lipid transfections
31	US 5622712 A	N-[.omega., (.omega1)-dialkyloxy]- and N-[.omega., (.omega1)-dialkenyloxy]-alk -1-yl-N, N, N-tetrasubstituted ammonium lipids and uses therefor
32	US 5578475 A	Composition and methods for transfecting eukaryotic cells

	Document ID	Title
33	US 5550289 A	N-(1,(1-1)-dialkyloxy)-and N-(1,(1-1)-dialkenyloxy alk-1-yl-N-N,N-tetrasubstitut ed ammonium lipids and uses therefor
34	US 5545412 A	N-[1, (1-1)-dialkyloxy]-and N-[1, (1-1)-dialkenyloxy]-alk-1-yl- n,n,n-tetrasubstituted ammonium lipids and uses therefor
35	US 5366737 A	N-[.omega.,(.omega1)-dialky loxy]- and N-[.omega.,(.omega1)-dialke nyloxy]-alk-1-yl-N,N,N,-tetra substituted ammonium lipids and uses therefor
36	US 5208036 A	N-(.omega., (.omega1)-dialkyloxy)- and N-(.omega., (.omega1)-dialkenyloxy)-alk -1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor
37	US 5049386 A	Nomega.,(.omega1)-dialkyloxy)- and N-(.omega.,(.omega1)-dialke nyloxy)Alk-1-YL-N,N,N-tetrasu bstituted ammonium lipids and uses therefor
38	US 4946787 A	N-(.omega.,(.omega1)-dialky loxy)- and N-(.omega.,(.omega1)-dialke nyloxy)-alk-1-yl-N,N,N-tetras ubstituted ammonium lipids and uses therefor

	Document	ID	Title
39	US 4897355	A	N[.omega.,(.omega1)-dialkyloxy]- and N-[.omega.,(.omega1)-dialke nyloxy]-alk-1-yl-N,N,N-tetras ubstituted ammonium lipids and uses therefor

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FILE 'MEDLINE, EMBASE, BIOSIS' ENTERED AT 18:12:54 ON 08 SEP 2004
L1
          1406 S DIOCTADECYL
L2
          69581 S HYDROXYL
L3
          8475 S PROPYLAMINO
L4
            0 S AMINOPOLYLYSINE
L5
          9593 S POLYLYSINE
L6
             3 S L1 (S) L2
L7
             1 DUP REM L6 (2 DUPLICATES REMOVED)
L8
        185888 S CHU?/AU OR LI-F?/AU OR QIU?/AU OR LIN-J?/AU
L9
          3238 S L8 AND LIPID
L10
            86 S L9 AND TRANSFECTION
L11
             0 S L10 AND L1
L12
            11 S L10 AND DOPE
L13
             4 DUP REM L12 (7 DUPLICATES REMOVED)
L14
        174980 S TRANSFECTION OR TRANSDUCTION AND L1
L15
             49 S L1 AND (TRANSFECTION OR TRANSDUCTION)
L16
             28 DUP REM L15 (21 DUPLICATES REMOVED)
L17
            23 S L16 NOT PY>=2003
             1 S L17 AND L2
L18
            0 S L17 AND L3
L19
L20
            0 S L17 AND L5
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L18 ANSWER 1 OF 1 MEDLINE on STN

ACCESSION NUMBER: 2001663873 MEDLINE DOCUMENT NUMBER: PubMed ID: 11708919

TITLE: Design, synthesis, and transfection biology of

novel cationic glycolipids for use in liposomal gene

delivery.

AUTHOR: Banerjee R; Mahidhar Y V; Chaudhuri A; Gopal V; Rao N M

CORPORATE SOURCE: Centre for Cellular & Molecular Biology, Hyderabad 500 007.

SOURCE: Journal of medicinal chemistry, (2001 Nov 22) 44 (24)

4176-85.

Journal code: 9716531. ISSN: 0022-2623.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200112

ENTRY DATE: Entered STN: 20011119

> Last Updated on STN: 20020123 Entered Medline: 20011212

The molecular structure of the cationic lipids used in gene ΑB transfection strongly influences their transfection efficiency. High transfection efficiencies of non-glycerol-based simple monocationic transfection lipids with hydroxyethyl headgroups recently reported by us (Banerjee et al. J. Med. Chemical 1999, 42, 4292-4299) are consistent with the earlier observations that the presence of hydroxyl functionalities in the headgroup region of a cationic lipid contributes favorably in liposomal gene delivery. Using simple sugar molecules as the source of multiple hydroxyl functionalities in the headgroup region of the transfection lipids, we have synthesized four novel simple monocationic transfection lipids, namely, 1-deoxy-1-[dihexadecyl(methyl)ammonio]-D-xylitol (1), 1-deoxy-1-[methyl(ditetradecyl)ammonio]-D-arabinitol(2), 1-deoxy-1-[dihexadecyl(methyl)ammonio]-D-arabinitol (3) and 1-deoxy-1-[methyl(dioctadecyl)ammonio]-D-arabinitol (4), containing hydrophobic aliphatic tails and the hydrophilic arabinosyl or xylose sugar groups linked directly to the positively charged nitrogen atom. Syntheses, chemical characterizations, and the transfection biology of these novel transfection lipids 1-4 are described in this paper. Lipid 1, the xylosyl derivative, showed maximum transfection on COS-1 cells. All the lipids showed transfection with cholesterol as colipid and not with dioleoylphosphatidylethanolamine (DOPE). Radioactive quantitation of free and complexed DNA combined with ethidium bromide exclusion measurements suggest that though nearly 70% of the DNA exists as complexed DNA, the DNA may not have condensed as was observed with other cationic lipids. Presence of additional (more than two) hydroxyl functionalities in the headgroup of the cationic lipids appears to have improved the transfection efficiency and made these lipids less cytotoxic compared to two-hydroxyl

derivatives.

ANSWER 1 OF 4 MEDLINE on STN DUPLICATE 1

ACCESSION NUMBER: 2002422092 MEDLINE DOCUMENT NUMBER: PubMed ID: 12175757

TITLE: The role of non-ionic surfactants on cationic lipid

mediated gene transfer.

AUTHOR: Kim Tae Woo; Kim Young Jin; Chung Hesson; Kwon

Ick Chan; Sung Ha Chin; Jeong Seo Young

CORPORATE SOURCE: Biomedical Research Center, Korea Institute of Science and

Technology, 39-1 Hwawolkok-dong, Sungbuk-ku, Seoul,

136-791, South Korea.

SOURCE: Journal of controlled release : official journal of the

Controlled Release Society, (2002 Aug 21) 82 (2-3) 455-65.

Journal code: 8607908. ISSN: 0168-3659.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200211

ENTRY DATE: Entered STN: 20020815

Last Updated on STN: 20021212 Entered Medline: 20021114

Cationic lipid carriers were made of 1,2-dioleoyl-sn-glycero-3-AB trimethylammoniumpropane (DOTAP), squalene and different amounts of non-ionic surfactants. Various non-ionic surfactants were selected to elucidate the role of Tween 80 in the cationic lipid mediated gene delivery. They had a similar structure to Tween 80 such as various poly(ethyleneglycol) (PEG) chain lengths and acyl chain with different headgroups. For comparison, lipid carriers were also prepared with 1,2-dioleoyl-sn-qlycero-3-trimethylammoniumpropane (DOTAP) and 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (DOPE). Addition of non-ionic surfactants decreased the emulsion-DNA interaction and affected the transfection activity depending on the chain length and the content of PEG in the surfactant. Among the surfactants, Tween 80 yielded the best transgene expression without showing toxicity in COS-1 cells. The delivery mechanism of the complex was investigated by measuring the effects of endocytosis inhibitors (chloroquine and wortmannin). The emulsion-DNA complex seems to be taken up by the cells via endocytosis.

L13 ANSWER 2 OF 4 MEDLINE on STN DUPLICATE 2

ACCESSION NUMBER: 2001515519 MEDLINE DOCUMENT NUMBER: PubMed ID: 11336353

TITLE: Optimization of lipid composition in cationic

emulsion as in vitro and in vivo transfection

agents.

AUTHOR: Kim T W; Chung H; Kwon I C; Sung H C; Jeong S Y

CORPORATE SOURCE: Biomedical Research Center, Korea Institute of Science and

Technology, Seoul.

SOURCE: Pharmaceutical research, (2001 Jan) 18 (1) 54-60.

Journal code: 8406521. ISSN: 0724-8741.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200109

ENTRY DATE: Entered STN: 20010924

Last Updated on STN: 20010924 Entered Medline: 20010920

AB PURPOSE: To enhance in vitro and in vivo transfection activity by optimizing lipid composition of cationic lipid emulsions. METHODS: Various emulsion formulations having different cationic lipids as emulsifiers, and additional helper lipids as

co-emulsifiers, were prepared. The stability of the emulsion and its

complex with DNA was investigated by measuring the particle size change in phosphate buffer saline (PBS) over a period of 20 days. The activity of the emulsions in transfecting pCMV-beta into COS-1 cells in the presence or absence of 80% serum was evaluated. We also evaluated in vivo transfection activity using intravenously administered pCMV-Luc+ as a reporter gene. RESULTS: Among the cationic emulsifiers, 1,2-dioleoyl-sn-glycero-3-trimethylammonium-propane (DOTAP) formed the most stable and efficient emulsion gene carrier. Addition of 1,2-dioleoyl-sn-qlycero-3-phosphoethanolamine (DOPE) increased in vitro transfection activity, but slightly compromised the stability of the emulsion. The loss was compensated for by including small amounts of Tween 80 in the emulsion. The in vitro and in vivo transfection activities were also increased by adding Tween 80. Even though in vitro transfection activity of liposomes was high in the absence of serum, the transfection activity of emulsions was far greater than that of liposomes in the presence of serum and for in vivo applications. CONCLUSIONS: By including DOPE as an endosomolytic agent and Tween 80 as a stabilization agent, the cationic emulsion becomes a more potent gene carrier for in vitro and in vivo applications, especially in the presence of serum.

L13 ANSWER 3 OF 4 MEDLINE on STN DUPLICATE 3

ACCESSION NUMBER: 1998207132 MEDLINE PubMed ID: 9538164 DOCUMENT NUMBER:

In vitro gene transfer in mammalian cells via a new TITLE:

cationic liposome formulation.

Kao M C; Law S L; Chuang T C; Lin Y S AUTHOR:

CORPORATE SOURCE:

Department of Biochemistry, National Defense Medical Center, P.O. Box 90048-501, Taipei, 100, Taiwan, R.O.C. Oncology reports, (1998 May-Jun) 5 (3) 625-9.

SOURCE:

Journal code: 9422756. ISSN: 1021-335X.

PUB. COUNTRY: Greece

Journal; Article; (JOURNAL ARTICLE) DOCUMENT TYPE:

LANGUAGE: English

Priority Journals FILE SEGMENT:

ENTRY MONTH: 199805

Entered STN: 19980514 ENTRY DATE:

> Last Updated on STN: 19980514 Entered Medline: 19980501

AB A new cationic liposome formulation of sphingosine (SP) and dioleoylphosphatidylethanolamine (DOPE) was developed as an efficient transfection reagent. This SP/DOPE liposome showed efficient transfection in a wide variety of mammalian cancer cells. No significant cytotoxicity of the SP/DOPE liposome to cells was observed. The tranfection activity was greater than that of a well-reported liposome which was made from a cholesterol derivative 3beta-[N-(N',N'-dimethylaminoethane)-carbamoyl] cholesterol (DC-Chol) and the neutral lipid DOPE. In addition, the SP/DOPE liposome was found to be less toxic to cells than the DC-Chol/DOPE liposome. Stable transfections mediated by SP/ **DOPE** liposome were also demonstrated. These results suggest that the SP/DOPE liposome may provide a good gene delivery system to be used in the human cancer gene therapy.

DUPLICATE 4 L13 ANSWER 4 OF 4 MEDLINE on STN

97463307 ACCESSION NUMBER: MEDLINE DOCUMENT NUMBER: PubMed ID: 9322091

TITLE: Characterization of cationic liposome-mediated gene

transfer in vivo by intravenous administration.

AUTHOR: Song Y K; Liu F; Chu S; Liu D

CORPORATE SOURCE: Department of Pharmaceutical Sciences, School of Pharmacy,

University of Pittsburgh, PA 15261, USA.

CONTRACT NUMBER: CA 72925 (NCI) SOURCE:

Human gene therapy, (1997 Sep 1) 8 (13) 1585-94.

Journal code: 9008950. ISSN: 1043-0342.

PUB. COUNTRY:

United States

DOCUMENT TYPE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE:

English

FILE SEGMENT:

Priority Journals

ENTRY MONTH:

199711

ENTRY DATE:

Entered STN: 19971224

Last Updated on STN: 19971224 Entered Medline: 19971105

Physicochemical properties of the cationic liposomes, including structure AΒ of the cationic lipid-to-DNA ratio, liposome particle size, and inclusion of the helper lipids, were studied for their effect on the level, site, and duration time of gene expression in vivo by intravenous administration. Using a cytomegalovirus (CMV)-driven gene expression system containing either the luciferase or green fluorescence protein gene as a reporter and two cationic lipids [N-(2,3-dioleoyloxy)propyl-N,N,Ntrimethylammonium chloride (DOTMA) and 1,2-dioleoyloxy-3-trimethylammonium propane (DOTAP)], we demonstrated in vivo by a single intravenous injection of DNA/liposome complexes into mice, that cationic liposomes are capable of transfecting cells in organs such as the lung, heart, liver, spleen, and kidney. Transfection efficiency is determined mainly by the structure of the cationic lipid and the ratio of cationic **lipid** to DNA. Although the presence of cholesterol in DOTAP liposomes did not affect **transfection** activity, inclusion of dioleoylphosphatidylethanolamine (DOPE) into either DOTAP or DOTMA liposomes significantly decreases liposome transfection activity in vivo. Results form time course show that gene expression in different organs is transient, with a peak level between 4 and 24 hr, dropping to less than 1% of the peak level by day 4. Experiments with repeated injections showed that the peak level of gene expression could be regained by subsequent injection.



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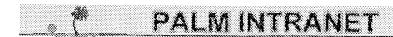
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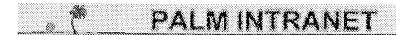
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